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THE CONFLICT SITUATIONS TECHNIQUE: A PROJECTIVE METHOD FOR ELDERLY PERSONS

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PREFACE

The average length of life for a Swedish male is around 74 years and for a female 80 years. But those who live longer are in most cases able to manage by themselves or with a limited amount of help until a very advanced age. Factors that may affect the process of aging include health, economy, education, previous occupation, social conditions, patterns of activity and various personality factors. The physical environment also plays an important role. Sooner or later many old persons are faced with the problem of having to move to a smaller modern dwelling, to a service flat or to some form of institution. In developing a new projective technique for the elderly, we hope to get a better understanding of the real life problems faced by this group of people.

This report also constitutes the second part of a forthcoming Ph D-thesis in psychology. In this respect it signifies a cooperative effort between the Department of Psychology, Lund University, and the Environmental Psychology Unit at the Lund Institute of Technology.

The study was supported through a graduate scholarship from the Department of Psychology. As part of the larger research project: Housing, work and leisure in the upper age groups, it was also supported by a grant from the Swedish Building Research Council.

I would like to express sincere thanks to the following persons who have helped the project in various ways. For providing testing facilities thanks are due to the Social Welfare Departments in Karlskrona and Malmö; for administrative and practical help at the testing locations, Gerd Hallberg and Berit Mattisson in Malmö and Margit Ottosson and Viola Andersson in Karlskrona; and finally the project reference group consisting of Assar Andersson and Görit Salomonsson, Karlskrona, Hans Blücher and Holger Granath, Malmö, Margreth Johansson, Yngve Lundqvist, Gudmund Smith and Öwe Ahlund, Lund, Gillis Samuelsson, Dalby and Carin Boalt, Stockholm.

Lund, April 1986

Rikard Küller

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SAMMANFATTNING

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En projektiv teknik har utvecklats för att studera hur pensionärer reagerar inför konfliktladdade situationer ur verkliga livet, vilka presenteras i form av teckningar. Tekniken grundas på en miljöpsykologisk modell för aktivering och kontroll som utvecklats av Küller (1976, 1984). Administrering och utvärdering sker i två steg varav det första avser probandens spontana reaktion inför bilderna. Det andra steget innebär en precisering av de konflikter och känslor som framkommer, liksom en möjlighet att finna konstruktiva lösningar. I rapporten redovisas utvecklingsarbetet samt en första undersökning där tekniken utnyttjats. Analysen, som för den projektiva teknikens del omfattar tio olika mått, grundas på data för 99 pensionärer i åldern 60 till 70 år, bl a avseende miljöförhållanden och anpassning till pensioneringen. Bildmaterialet utvärderas dessutom med hjälp av regressionsanalys. Förutom att förhållandet mellan pensionering och anpassning belyses, tyder resultaten på att de elva projektiva måtten är relaterade på ett meningsfullt sätt. Slutsatsen blir att kombinationen av projektiv teknik med ett miljöpsykologiskt synsätt ger nya, delvis unika möjligheter att förstå hur människor fungerar i vardagliga konfliktsituationer.

ABSTRACT

Watzke, J.R. & Küller, R. 1986. The Conflict Situations Technique. A projective method for elderly persons. Environmental Psychology Monographs No. 4. School of Architecture, Lund Institute of Technology, Lund, Sweden (45 pages) ISSN: 0280-8269.

The report presents a newly developed projective technique designed to compare groups of Swedish retired persons' responses to a selection of real-life situations containing potential conflicts. The technique features stimulus drawings and an administration and scoring system which are based on a model of environmental activation and emotional control (Küller 1976, 1984). The administration and scoring system combines both spontaneous and probe stages in an effort to elicit a subject's acknowledgement of problems, projection of emotions on the hero-figures, and solutions for any conflicts seen in the drawings. The report focuses on the development and the first study with the technique which was concerned with the evaluation of ten scoring dimensions using correlation and factor analysis as well as analysis of variance. The data comes from 99 pensioners (age 60-70, both sexes) who were divided according to living environment, sex, and personal adjustment to retirement. In addition, stepwise logistic regression analysis was employed in an attempt to examine the relative effectiveness of the twelve stimulus drawings. The results are presented with an emphasis on hypotheses related to better and less well adjusted pensioners; the number of affirmed hypotheses are taken as evidence of the utility of the scoring dimensions. In conclusion, it is argued that in combining principles from projective testing with a more reality-based perspective from the environmental psychology model, the technique can provide a unique type of information, potentially adding to the understanding of pensioners' functioning in everyday problem-solving situations.

INTRODUCTION

During the last five years our research unit has been conducting a project titled Housing, Work, and Leisure in the Upper Age Groups. The project centers on retirement, which for many persons represents a major life-event; not only regarding stopping work but also in terms of changing social networks, new challenges of leisure time use, possible changes in housing and often adjustment to a new personal financial situation. The project has two general goals. First, an attempt is being made to identify typical retirement patterns of 60-70 year olds, men and women, coming from different living environments in southern Sweden, e.g. urban and rural. Towards this goal, a sample of 500 persons were interviewed using a 60 page form covering what might be termed their 'comprehensive life situation'.

The project's second goal was to study in more depth personal adjustment to retired life. To this end an adjustment criterion was created based on selected items from the interview form. This criterion was then employed for ranking of the original sample from most to least well adjusted. The adjustment criterion will be presented in more detail later. Based on their adjustment rankings, it was decided to invite a subsample of approximately 100 retirees to fieldtesting locations where they were given a test battery consisting of physiological, stress, performance, cognitive, personality, creativity, and projective measurements (Appendix 1). Between the larger interview form data and the clinical data from the subsample we eventually will try to illuminate those personal, social, and environmental variables which are critical to healthy adjustment in retired persons (Küller 1984, Watzke 1986).

Upon assembly of the abovementioned test package, it was decided to include a projective measurement. Projective testing with older subjects has been shown to be useful in the past (e.g., Neugarten & Gutmann 1968; Ames et al. 1973). Encouraged by the efforts of Wolk & Seiden (1966) and Belläk (1973) to develop TAT type drawings adapted for older subjects, we decided to develop a projective technique tailored to the specific research needs of our retirement study. Unlike traditional TAT testing based largely on psychoanalytic theory, we wanted a more structured projective instrument which could be used to compare groups of older persons' responses to various real-life situations containing potential problems or conflicts. This was accomplished through the development of our own set of stimulus drawings as well as unique administration and scoring systems which are based on a model of environmental activation and emotional control (Küller 1976, 1984). This model is presented in detail later in the paper.

DEVELOPMENT OF THE DRAWINGS

The first step was to gather a list of verbal descriptions of various 'problem situations' for Swedish retirees. Besides the researchers in our group, social welfare officers and other professionals working with pensioners were asked to offer a list of relevant situations using the following criterion.

1. The situations should be especially important to healthy 60-70 year olds and their lives as pensioners.

2. The situations should be of relevance to such persons living either in the city, country, or on an island.
3. The situations should have concrete environmental qualities, physical or social, thus providing a meaningful context for the older aged hero-figure depicted in each drawing.
4. Each situation should depict one or more potential problems or conflicts for retired persons.
5. The situations should be representable in visual form, e.g., as drawings or a short sequence of drawings and should eventually lend themselves to a clear verbal description.

From this material 19 situations were selected and taken to an artist*. Please see Table 1 for titles and brief descriptions of the situations. As was anticipated, there was a series of modifications to each drawing dependent on feedback from the professionals involved in the project as well as eight retirement-aged consultees. For example, these consultees were especially sensitive to the form of the mouths on the hero-figures. For this reason, the hero-figures have straight lines for mouths, a compromise solution to the problem. Most of the other changes concerned environmental details and attempts to get the hero-figure to look the correct age, have appropriate style clothing, etc. It should be noted that all situations with only one hero-figure have a male and female version.

ADMINISTRATION OF THE DRAWINGS

In developing the technique we were, for the most part, not seeking the kind of data reported in most thematic apperception studies which have focused on the categorization and normative comparisons of elicited themes (manifest and latent stimulus demands), outcomes, and emotional tenor of the stories, as well as the assessment of defense mechanisms and identification patterns (see, e.g., Holt 1951; Shneidman 1951; Bellak 1975). Although that type of data can be extracted using the present technique, we were interested in a more quantifiable type of data scored along dimensions which allow statistical comparisons between groups of subjects. The scoring system and its variables will be discussed in more detail later, but simply stated, we wanted to present the subjects a group of realistic situations and give them the chance to:

1. project (or not project) problems or conflicts in those situations,
2. project an emotional quality upon the hero-figure in each situation,

* *Special thanks to Jonas Nordegren.*

Table 1. *Titles and brief descriptions of the original 19 situations.*

Title	Rendering	Hypothesized problem/conflict areas
Authorities *	The hero-figure is visiting an authority figure. He/she is sitting across the desk in a typical professional office environment.	Accepting help from the welfare department, being dependent on experts
Babysitting	The hero-figure is sitting in a chair while a young child plays on the floor. The environment is a typical living room.	Family relations; the grandparent role
Cemetery	The hero-figure is standing and looking at a gravesite in a cemetery.	Aging and death, loss of a loved one
City life	The hero-figure is sitting alone on a bench located in the city center.	Urban living (crime, stress, etc.), loneliness
Country life	The hero-figure is standing in front of a typical country cottage, the surrounding environment is rural.	Isolated living, maintaining the house, chores, etc. as one gets older
Crowded bus	The hero-figure is boarding what is clearly a crowded bus.	Public transportation, courtesy to elderly persons, loss of physical abilities
Fallen person	The hero-figure has fallen at a curb, he/she is conscious. The environment is a city street and there are a handful of persons in the background who have taken notice of the incident.	Loss of physical abilities, people's reluctance to aid people in need
Hospital	Two older persons (same sex) are in a typical hospital room, one is in the bed, the other is a visitor.	Aging and poor health, medical care
Kitchen couple	An older couple is standing in their kitchen doing dishes and having a discussion.	Changing sex roles, marriage during the retired years
Moving	The hero-figure is standing staring out a picture window while two moving men carry out (or in) a sofa from (into) a bare room.	Forced moving, changing residence in old age

* Both male and female authority figures were drawn for this situation.

Table 1 - *continued*

Title	Rendering	Hypothesized problem/conflict areas
Noisy neighbors	The hero-figure is standing in his/her bathrobe on a balcony looking across the courtyard at an ongoing party.	Neighbor relations, the generation gap
Organized hobbies	An older couple is sitting at a table doing ceramics. There is a woman instructing them.	Spare time after retirement
Park bench	An older couple is walking arm in arm through a park. To one side, some teen-agers are sitting on a bench drinking beer. In the other direction two younger persons are practicing soccer.	Relations between generations, alcohol, uses of public areas
Pensioners' party	A typical dance and coffee klatch at a senior citizens center. In the foreground, two hero-figures (opposite sex) sit alone at separate tables.	Contact with the opposite sex, loneliness and widowhood
Receiving a letter	The hero-figure is sitting in his/her living room reading a letter of some sort.	Contact from authorities, senior citizen organizations, receiving news from relatives
Senior citizen center	The hero-figure is standing outside the entrance to a senior citizens center, as if he/she is deciding whether or not to go in.	Attitudes towards senior citizen centers, retired life
Single person	The hero-figure is sitting alone at a dining/kitchen table. The table has only a glass on it.	Loneliness, alcoholism
Strangers	The hero-figure has just answered a ring at his/her door. Two properly dressed men with brief-cases are standing waiting.	Fear of strangers, attitudes towards salesmen and/or missionaries
Work site	The hero-figure is standing with his/her dog by the entrance of an industrial work place. It is quitting time, people are shown leaving.	Retirement and longing for a job.

3. if appropriate, offer a solution to the problem in the situation,
4. give an overall evaluation of each situation.

The details of administration are as follows. Male subjects view the male hero-figure version of the drawings; females the female version. After asking for permission to tape record the session*, the subject is told he will be shown a set of pictures depicting various situations and will be asked some questions about them. The subject is also informed that he will be going through the drawings three times.

In what is called Step 1, the subject is asked the following question for every picture: "What do you think is happening in this picture?". This is the spontaneous stage of the administration. The interviewer has an administration sheet which enables him to note whether or not the subject offers any problems, emotional responses concerning the hero-figure (hero-emotions), and solutions or ways to control the situation. In those cases where the subject offers only denotative responses to the stimuli, e.g., "There is a tree, a bench, a store", the interviewer replies: "What do you think is happening in this picture, what do you think this picture is about?". After completing Step 1 with all the drawings the interviewer checks his administration sheet and assembles those drawings which did not elicit a hero-emotion; in most cases this means a majority of the drawings. In those cases where a subject offers a problem, hero-emotion, and solution all in Step 1, those drawings are not probed further.

Step 2 involves a more direct probe concerning the emotional state of the hero-figure; the interviewer takes each drawing and points at the hero-figure asking: "How do you think he/she is feeling?". If the interviewer feels the hero-emotion offered is negative, e.g., "he is sad", he probes for a solution by saying: "What can he do?". If the emotion was positive, e.g., "he is feeling great", there is no further probe because a positive hero-emotion is accepted as indicative of a 'problem-free' situation.

Upon conclusion of the probe stage, the interviewer lays a large 5-step semantic scale out on the table (1=very unpleasant, 2=unpleasant, 3=neutral, 4=pleasant, 5=very pleasant). The subject is then handed all the drawings and asked to evaluate each drawing by placing it somewhere along the scale. This concludes the session, which dependent on the number of drawings used, normally takes no more than 30 minutes.

TRANSCRIPTION AND SCORING

Transcription and initial scoring from the tape should be done as soon as possible after the session and by the same person who administered the drawings. The administration sheet provides a brief but

* *It is also possible to administer the technique without tape recording. This is presently being done in another study.*

important review of the earlier session and by comparing this sheet with the tape recording the scorer can see if his initial judgements of the session were accurate.

The first scoring task is to transcribe the responses to each drawing onto the Single Picture Score Sheet (Figure 1). The primary scoring

Figure 1. *The Single Picture Score Sheet.*

CST Miljöpsykologi 1985: Single Picture Score Sheet		Id: _____ Picture No: _____										
STEP 1 WHAT DO YOU THINK IS HAPPENING IN THIS PICTURE? Theme: _____ _____ Problem ☐ no ☐ yes _____ Emotion ☐ neg. ☐ neut. ☐ pos. _____ Solution ☐ no ☐ yes _____ Verbal fluency: low normal high Arousal: normal high very high ☐ ☐ ☐ ☐ ☐ ☐												
STEP 2 HOW DO YOU THINK HE/SHE IS FEELING? New theme: _____ _____ Problem ☐ no ☐ yes _____ Emotion ☐ neg. ☐ neut. ☐ pos. _____ PROBE: WHAT CAN HE/SHE DO? Solution ☐ no ☐ yes _____												
STEP 1 & 2 ☐ Identification ☐ Uncommon theme (underlined) ☐ Blocking ☐ Unusual behavior: _____		Built environment <table style="margin: auto;"> <tr> <td style="text-align: center;">Activity</td> <td style="border-left: 1px solid black; border-right: 1px solid black; width: 20px;"></td> <td style="text-align: center;">Social</td> </tr> <tr> <td></td> <td style="border-top: 1px solid black; border-bottom: 1px solid black; width: 20px;"></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">Personal</td> <td></td> </tr> </table>		Activity		Social					Personal	
Activity		Social										
	Personal											
STEP 3 PLEASANTNESS RATINGS (1=unpleasant, 5=pleasant) Ss value: _____ Group mean: _____ ☐ Elevated ☐ Deflated												

dimensions, Step 1 problems, hero-emotions, and solutions are scored as follows. A Step 1 problem is considered present if the response acknowledges a problem or conflict in the given situation; this implies a response which is more than a denotative description of the stimuli. For example, in the drawing City Life, a typical problem might be loneliness, i.e., the hero-figure sitting on the bench is lonely. At other times, the Step 1 responses might be problem-free, e.g., "That is a typical city center, and there's a pensioner enjoying watching the activity". Scoring for problems or conflicts is not always so easy. Some of the drawings have a problem more or less given, for example, the Hospital. Being in the hospital implies some sort of health problem; for a response to that picture to be scored as a problem, it must contain more than "This is a hospital room, he is sick". A clear-cut problem might read: "That is a hospital room and he in the bed is wondering why his doctor hasn't been to see him for so long".

Hero-emotions may be obtained spontaneously in Step 1 or via probing in Step 2 and are scored as either positive, neutral, or negative. Here again, classifying an emotion is in some cases not easy. "Happy, safe, and satisfied" are clearly positive; "sad, depressed, scared, and bored" are negative examples. An emotion might be scored as neutral for two reasons. First, it may be neither clearly positive or negative, e.g., "expectant, thoughtful, reserved". In the second case, the subject has trouble deciding on the hero-emotion - "I don't know, he might be happy, maybe he's sad". This second reason for scoring an emotion neutral is more a function of the subject's response style, i.e., some subjects are reluctant to take a stance on the situation(s) in general.

As stated earlier, solutions may be offered by the subject without probing, but in most cases they are probed for in Step 2 after a negative hero-emotion has been received. The response is first classified as a 'solution' or a 'non-solution'. A solution is one that contains a proposal with substance and ideally suggests a type of behavior or action, e.g., "He should go see a doctor, or he should stop that drinking and go to the senior citizen center and meet people". Solutions can be further classified according to the previously mentioned model (Küller 1976, 1984) which gives the possibility to categorize the nature of a solution in terms of four types of adaptive mechanisms. Does the response suggest controlling the situation by means of the built environment, social setting, selection of activity, or internal personal qualities? The score sheet contains a representation of the four factor areas of the model and the scorer attempts to place each solution into the model. Lastly, if a clinical judgement is desired, the solution can also be scored as adaptive or maladaptive.

Non-solutions, on the other hand, are characterized by their vagueness and/or apathy and often indicate a subject's inability or unwillingness to solve the problem already acknowledged in a situation. Non-solutions contain statements like "I don't know what he can do, or he can't do anything". For this scoring task, it is critical that non-solutions not be mistaken for responses which are indicative of a subject's disinterest or poor attitude towards the test itself.

The remaining scoring items require less explanation. Identification refers to the use of a first-person pronoun (I, me, we) by the subject in a way which implies some experience or involvement with the given picture as a whole. This conception differs from the one commonly held in dynamic psychology which sees identification as a type of defense mechanism and thereby assumes the subject's emotional unity with a stimulus object (the hero-figure) and his belief that he himself shares some qualities of that object.

Arousal and verbal fluency are judgements made by the interviewer, preferably during the actual session, of the subject's initial style of responding (Step 1). These assessments are within-individual judgements and are therefore harder to make at the beginning of the session. In addition, each score sheet has space to indicate an uncommon theme, mental blocking, or unusual behavior, which if present are potential indicators of stronger conflicts or what psychoanalysts might term a faulty functioning ego.

Lastly, concerning the semantic evaluations, the subject's rating of each picture is noted and compared to a mean rating derived from a group of similar subjects. If the individual's rating deviates from the group mean by one point or more, this is also noted on the score sheet. Throughout this report, such ratings are referred to as 'elevated' if they are above the mean and 'deflated' if they are below. In addition to the scores for deviating ratings, the subject's mean for all drawings is calculated; this is referred to as 'average pleasantness rating'.

After completing the single score sheet for each drawing, the scores are transferred to the Summary Score Sheet (Figure 2), which in most cases, is a straight-forward summing up of the scoring dimensions discussed above. For our present research purpose, the following summation scoring policies were chosen. Problems were only calculated from the Step 1 stage, a maximum of one per drawing. It was decided to not score problems in Step 2 because in those cases where the probe elicits a negative hero-emotion often a problem is implied in the response. The purest measurement of acknowledging problems therefore stems from Step 1. Hero-emotions were also scored one per drawing, either positive, neutral, or negative. In those incidences where more than one emotion is received, the scorer must select which category best describes the subject's responses toward the hero-figure's emotional state. Identifications were also scored a maximum of one per drawing.

The summation of solutions is somewhat more complicated because positive hero-emotions are not probed for solutions. The way we solved this was to score solutions and non-solutions as inverse percentages of the total possible. The summary score sheet also contains a diagram of the model's four factors upon which the single picture solutions are transferred. Ideally, those points would reflect a person's control pattern or style, i.e., when it comes to these situations, does the subject have a particular factor he relies upon when trying to gain control, or are his solutions more varied and flexible, drawing on several factors?

Finally, the summary sheet provides space for the interviewer to judge the subject's attitude and vitality regarding the testing session.

Figure 2. *The Summary Score Sheet.*

CST Miljöpsykologi 1985	Summary Score Sheet	Id number: _____
<u>Ss attitude</u> ☐ very positive ☐ positive ☐ negative ☐ very negative	<u>Ss vitality</u> ☐ very high ☐ high ☐ low ☐ very low	<u>Solutions</u> Activity Built environment Social personal Social
STEP 1 Problems _____ (12)*	<u>Verbal fluency</u> high _____ normal _____ low _____	<u>Arousal</u> very high _____ high _____ normal _____
STEPS 1 & 2		
Neg. emotions _____ (12)	Identifications _____ (12)	
Neut. emotions _____ (12)	Uncommon themes _____ (12)	
Pos. emotions _____ (12)	Deflated pleasantness ratings _____ (12)	
Non-solutions _____ ()	Elevated pleasantness ratings _____ (12)	
Solutions _____ ()	Avg. pleasantness rating Ss _____ Group _____	
CONCLUSION		
Date: _____ Signature: _____		
* Numbers in parentheses indicate total possible.		

PILOT TESTING AND WORKING HYPOTHESES

The primary purpose of the pilot testing was to assess the relative effectiveness of the drawings. Due to the upcoming field testing with each subject, it was decided to use a maximum of 10-12 drawings. In addition, we wanted to assess the administration and scoring system in terms of our forthcoming research. The drawings were divided into two groups and tested separately using two groups of senior citizens (mean age = 73, total N = 39).^{*} The testing took place at two local senior citizen centers.

Basically two types of tasks were performed with the data. First, a qualitative analysis was done on the content of problems, hero-emotions, and solutions elicited by each drawing. Here, the various responses were studied while thinking of such questions as; what types of specific problems, emotions, and solutions were seen; are these responses representative of issues which are relevant to retired persons' lives; are the drawings neutral enough to allow a variety of interpretations; are there drawings which overlapped or tapped similar problem areas? In short, we attempted to evaluate each drawing's responses in terms of the original criteria for selecting situations (compare pages 9 and 10).

Second, a quantitative analysis was done for some of the scoring dimensions outlined earlier. A comparison between drawings for the number of Step 1 problems, positive vs. negative hero-emotions, solutions vs. non-solutions, and identifications provided the type of overview needed in the early stage of the technique's development. Another obvious reason for attempting such quantifications was in order to find the difficulties in assembling the data into the scoring dimensions as we conceived them.

Generally, we were satisfied with the drawings; they elicited projections about relations with youth; vulnerability in older age; attitudes towards retirement, senior citizen centers, and social authorities; feelings about loneliness and making personal contact; as well as general responses about, for example, urban vs. rural living. Furthermore, the drawings as a whole elicited more negative hero-emotions than positive, and a greater percentage of solutions than non-solutions - both expected results.

Although deciding was difficult, the following drawings were eliminated: Authorities (male version), Babysitting, Cemetery, Fallen Person, Noisy Neighbors, Organized Hobbies, Receiving a Letter, and Senior Citizen Center. The reasons for elimination varied. Fallen Person and Cemetery were probably too obvious and specific, allowing very little variety in projection. Also, even though falling down and losing a loved one are real experiences for many older persons, they are not very controllable situations. Senior Citizen Center and Noisy Neighbors were eliminated in favor of Pensioners' Party and Strangers. The latter drawings appeared to be tapping

^{*} *Special thanks to Vera Denvall and Karin Gunnarsson (1984) for conducting the pilot testing.*

similar problems, but were drawn with more general contexts which made them preferable for our research which focuses on subjects coming from both urban and non-urban environments. Babysitting, Organized Hobbies, and Receiving a Letter were eliminated because they elicited very few problems or conflicts. The final drawing eliminated was the male version of Authorities. We chose the female version instead, because in Sweden, it is often the case that the authority figures pensioners meet, for example, at the social welfare department, are females. Also, with a female authority figure, male subjects have the possibility to project role changes between the male hero-figure pensioner and the female authority figure. (Please see Appendix 2 for reductions of the eliminated drawings.)

After the pilot testing it was easier to formulate a group of working hypotheses concerning the technique in general and the scoring dimensions in particular. First, it should be mentioned that for the most part, the drawings did not elicit strong conflicts, nor were they highly arousing for our retirees. In addition to the highly realistic rendering of the drawings, this is probably a function of our rather concrete probing. Asking a person what 'he thinks is happening' in a picture is not as fantasy encouraging as asking for a story with a beginning, middle, and ending.

Our expectations with the technique are not based on principles of dynamic psychology. Instead, we are utilizing the technique in terms of a model of environmental psychology (Figure 3). The model sees each person as having a basic emotional process, which through activation, orientation, and evaluation of the various factors present in any given situation, eventually leads to control by means of various adaptive and/or compensatory mechanisms.

Each of the dimensions in the scoring system is theoretically related to the concepts making up the basic emotional process. Activation is primarily assessed via the ratings of arousal and verbal fluency, as well as the number of identifications. Orientation is best seen through the subject's acknowledgement of problems or conflicts in the drawings, i.e., what in the situation does he focus on? Evaluation is measured by the quality of the projected hero-emotion and the subject's pleasantness rating of the drawing. Lastly, the quality of a person's solution is believed to be directly related to his/her control of the specific situations as well as to more complex phenomena such as one's 'retirement type'. In other terms, solutions might be seen as indicators of better emotional control, while non-solutions may be viewed as indicators of low control or deficiencies in the subject's adaptive mechanisms.

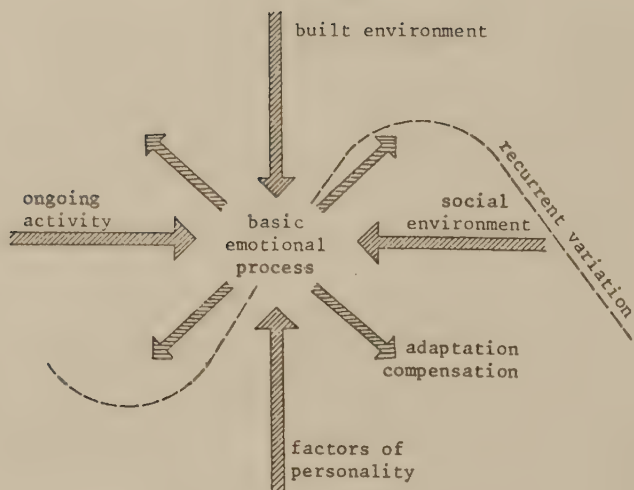


Figure 3. *A model of man-environment interaction (after Küller 1976, 1984). According to this model human beings are partly affected by the physical environment and partly by the social network. In addition, they are influenced by the activities in which they engage. This influence, which varies in extent over time, is modified by their own personal resources, constitution, experiences, etc. While the environment activates them in various ways, human beings at the same time endeavour to retain control over their situation. What the model indicates is, in part, that activation from various sources must be balanced and adapted to the resources of the individual.*

To summarize, a hypothetical comparison between two groups of well adjusted and maladjusted pensioners might read as follows. First, the well adjusted group would be expected to react more realistically to the drawings as a whole. This contention is based on an expectation of better adjusted persons to be more willing to acknowledge the various problems presented in the drawings. Concerning the number of identifications, we would not expect there to be differences in terms of adjustment for the drawings in general. Due to the common nature of the situations depicted, there is no reason to expect better or less well adjusted persons to vary, for example, in their frequency of experience with the situations. However, when it comes to evaluation, we would hypothesize the better adjusted to project more positive hero-emotions and to rate the situations as generally more pleasant. Lastly, we would expect better adjusted persons to respond with more solutions to those situations which are seen as problematic, i.e., they are expected to feel more in control in conflict situations.

THE FIRST STUDY WITH THE TECHNIQUE

Subjects

As mentioned previously, the first study with the technique was part of a testing battery administered to a specially selected subsample of the 500 retirees (age 60-70, males and females) who had participated in a home interview approximately one year earlier (Küller, forthcoming). The original sample consisted of 100 persons each from five different living areas; three urban, one rural, and one archipelago. The educational level was similar for almost all subjects (basic, 6 to 9 years). Their vocational backgrounds were mixed; the urbanites consisted mainly of factory workers and civil employees, whereas the rural subjects were mostly small scale farmers, artisans, and fishermen. (For a more detailed description of the total sample, see Küller, forthcoming.)

For the following-up testing, it was decided to select a subsample of approximately 100 persons. To begin with, those subjects from the original sample who were not fully retired were eliminated, leaving 398 persons. Next, unlike the original sample which was balanced for place, sex, and age, the follow-up subsample was selected according to an adjustment criterion created from certain items from the abovementioned interview form (Appendix 3).

The criterion was created in two steps. First, judges (three environmental psychologists and one environmental engineer) went through the interview form and selected those items they felt would best reflect a person's 'adjustment' to retirement; only items which involved subjective assessments of one's own situation as a retiree (psychologically, socially, or physically) were considered. The judges' nominations were then pooled, discussed, and tested by factor analysis. Finally, an acceptable solution based on 21 items was arrived at. Factor scores for all 398 pensioners were calculated which allowed ranking of the subjects from most to least positive adjusted.

It was decided to use this adjustment ranking for the selection of the subsample of 100, the intention being to proceed with the 50 best and 50 least well adjusted subjects. Table 2 shows the distributions of the various subsamples according to place, sex, and adjustment. As one can see, there was a sizable number of subjects who we attempted to invite for the follow-up testing but did not participate. (For a detailed discussion of the problems related to attrition for the follow-up testing please refer to Watzke 1986.) It should be noted that the distribution of the subsample who did participate (N=99) did not differ significantly from the larger samples with regard to place or sex; there was, however, an overrepresentation of better adjusted persons, especially males. Lastly, the classification of better and less well adjusted subjects was based on the abovedescribed factor score ranking; the median of the larger sample's distribution (N=398) served as the dividing point. Because of the large attrition in the follow-up subsample, the differences in terms of the adjustment rankings between the better and less well adjusted groups necessarily diminished, presumably reducing the potency of that independent variable.

Table 2. *Description of the various subsamples in terms of place, sex, and adjustment.*

	URBAN				RURAL			
	Male		Female		Male		Female	
	Better adjusted	Less well adjusted	Better adjusted	Less well adjusted	Better adjusted	Less well adjusted	Better adjusted	Less well adjusted
All retired subjects (N=398)	73 (18)*	61 (15)	40 (10)	75 (19)	46 (12)	36 (9)	40 (10)	2 (1)
Total subjects sent letters for followup study (N=274)	39 (14)	35 (13)	24 (9)	56 (21)	36 (13)	31 (11)	33 (12)	2 (1)
Subjects sent letters, but did not participate (N=175)	17 (10)	25 (14)	15 (9)	38 (22)	20 (11)	26 (15)	20 (11)	1 (1)
Subjects sent letters, and did participate (N=99)	22 (22)	10 (10)	9 (9)	18 (18)	16 (16)	5 (5)	13 (13)	1 (1)

* Percentage

Procedure

In the present study, the projective technique was one part of a 4 ½ hour testing battery and was placed as near to the midpoint of the testing as possible. All testing took place in two senior citizen centers in quiet, private rooms. All subjects were given the technique as outlined earlier. The twelve pictures shown in Figure 4 were used, always shown in the order they appear in the figure. It should be noted that it was not possible to have the technique administered to all subjects by the same person. In two of the urban areas, two female graduate psychology students* (age 35, 45) administered the technique after training. In the remaining areas, because of the special dialects, another female student* (age 27) from the local area was trained to administer the technique. All scoring of the material was performed by the first author.

* *Special thanks to Monica Skarping, Britt Karlsson, and Kristina Lundberg for valuable assistance in collecting these data.*

Figure 4. *The twelve drawings from the first study.*



1. *City Life*



2. *Authorities (female version)*



3. *Work Site*



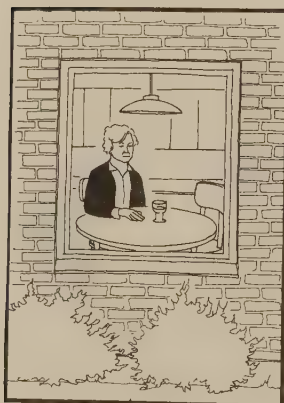
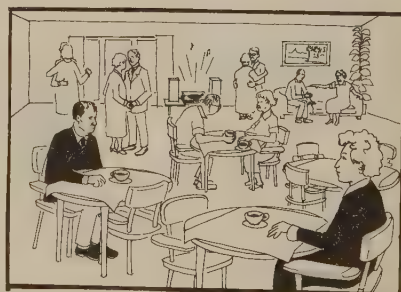
4. *Park Bench*



5. *Hospital*



6. *Country Life*

Figure 4 - *continued*7. *Strangers*8. *Kitchen Couple*9. *Single Person*10. *Pensioner's Party*11. *Crowded Bus*12. *Moving*

Based on the correlations, four of the dimensions were not used in the forthcoming factor analyses. First, since the percentage of solutions and non-solutions are artificially correlated by the method of scoring, non-solutions was removed. Next, the three dimensions scoring hero-emotions were evaluated and resulted in the elimination of the positive and neutral emotions. Positive and negative emotions were expected to correlate highly, and they did ($r = -.69$). Since it was felt that negative emotions were more clearly related to the investigation of problems or conflicts, that dimension was retained. Neutral emotions were not included in the factor analysis for two reasons. First, according to the scorer, this was the most difficult emotion to classify. This makes sense for those cases where the subject was avoiding assigning a clear emotional state to the hero-figure. Secondly, the fairly high negative correlation between neutral and negative emotions ($r = -.49$) might indicate these neutral responses were an undecided, but nevertheless positive projection of the hero-emotion. Lastly, the dimensions scoring the deviating pleasantness ratings were retained instead of the average ratings because those dimensions were believed to provide a more sensitive look at a person's hedonic evaluation of the twelve situations.

An orthogonal factor analysis was performed with the six remaining scoring dimensions. Table 4 shows the resulting 3-factor solution and corresponding loadings.

Table 4. *3-factor solution and loadings for the scoring dimensions (orthogonal rotation, N=99).*

Scoring dimensions	Factor 1	Factor 2	Factor 3
Negative hero-emotions	.80	.20	.14
Elevated pleasantness ratings	-.72	.05	.28
Deflated pleasantness ratings	.72	-.10	.17
% Solutions	-.18	.85	-.20
Step 1 problems	.27	.72	.34
Identifications	.02	.00	.92
% of total variance explained	30	22	19

The first factor's primary loadings consisted of negative hero-emotions as well as both dimensions for deviating pleasantness ratings. This factor was interpreted as a negative hedonic evaluation. The second factor was characterized by the percentage of solutions and the number of Step 1 problems, those scoring dimensions which are related to acknowledging and solving problems seen in the drawings. Since Factor 3 had only one high loading (identifications), it was considered unuseful for further analyses. Factor scores for Factors 1 and 2 were calculated for each subject and included in the analyses of variance which were conducted as described below.

Analysis of Variance

For the analysis of variance, all the scoring variables except neutral emotions were used. It was decided to do a 3-way analysis, dividing the 99 subjects by place, sex, and adjustment. Due to small cell sizes, all the urban subjects were combined ($N=59$), likewise for the rural and archipelago areas ($N=40$). The subjects were classified for adjustment as described earlier, resulting in two groups, 60 better adjusted and 39 less well adjusted.

Table 5 shows the probabilities for each scoring variable and type of effect. All effects with p-values less than or equal to .05 are described below (raw cell means for these data appear in Appendix 4).

Concerning the first scoring variable, the better adjusted group acknowledged more Step 1 problems than the less well adjusted group ($F=4.45$, $df=1,91$, $p=.04$).

Next, the urban group had a greater number of identifications than the rural group for the drawings as a whole ($F=11.36$, $df=1,91$, $p=.001$). The females, in comparison to the males, also had a greater number of identifications ($F=4.49$, $df=1,91$, $p=.04$). Finally, a triple interaction was revealed ($F=4.21$, $df=1,91$, $p=.04$). An inspection of the cell means provided the following explanation for the interaction. First, although the rural group in general had fewer identifications, this was not true for the rural, less well adjusted females. Second, there was a main effect of females having more identifications than males, except in the case of the less well adjusted urban males who equalled the highest cell mean ($M=1.4$, $N=10$). Lastly, the relations between identifications and adjustment were not consistent. In effect, the urban females displayed the same tendencies as the rural men, i.e., in those two groups, the less well adjusted had only slightly fewer number of identifications in comparison to their better adjusted counterparts. At the same time, the results of the urban men mirrored those of the rural females, where both groups of less well adjusted had a greater number of identifications than the better adjusted.

The only significant result for number of positive hero-emotions was for adjustment. Across all twelve drawings the better adjusted group projected more positive emotions ($F=4.30$, $df=1,91$, $p=.04$).

Table 5. *Probability values from the 3-way analysis of variance of the scoring dimensions (df=1,91, N=99).*

SCORING DIMENSION	MAIN EFFECTS			INTERACTIONS			
	Place	Sex	Adjust.	P x S	P x A	S x A	P x S x A
Step 1 problems	.07	.12	.04	.47	.52	.79	.98
Identifications	.001	.04	.28	.30	.78	.64	.04
Positive emotions	.14	.61	.04	.89	.22	.62	.67
Negative emotions	.54	.61	.15	.59	.56	.21	.38
% Solutions	.93	.04	.02	.01	.51	.12	.37
% Non-solutions	.91	.04	.02	.01	.50	.12	.36
Average pleasantness ratings	.89	.08	.06	.24	.39	.91	.65
Elevated pleasantness ratings	.34	.34	.46	.22	.91	.39	.92
Deflated pleasantness ratings	.07	.41	.03	.56	.46	.92	.79
Factor 1 (negative hedonic evaluation)	.58	.23	.08	.36	.53	.45	.72
Factor 2 (problem acknowledgment and solution)	.32	.03	.004	.11	.42	.25	.51

Three significant effects were obtained for percentage of solutions and non-solutions. First, the females displayed a greater percentage of solutions in comparison to the males ($F=4.36$, $df=1,91$, $p=.04$). Second, the better adjusted group also had a greater percentage of solutions in comparison to the less well adjusted group ($F=5.32$, $df=1,91$, $p=.02$). Lastly, there was an interaction between place and sex ($F=7.49$, $df=1,91$, $p=.01$). The urban males had a greater percent-

age of solutions (82.8 %) than the urban females (75.5 %), while the opposite was true for the rural group (females 87.6 %, males 69.3 %). It should be noted that these three effects for solutions imply the opposite effects for non-solutions, i.e., because of the way these dimensions were scored, a group displaying a greater percentage in one dimension must also have a smaller percentage in the other. For this reason, results from the non-solutions will not be presented separately.

For the subjects' average pleasantness ratings no significances were revealed, but there was a tendency for the females and the better adjusted to rate the drawings as more pleasant (see Table 5). Regarding the number of elevated and deflated pleasantness ratings, only the latter revealed a significant effect. The less well adjusted retirees had a greater number of deflated ratings in comparison to the better adjusted ($F=4.94$, $df=1,91$, $p=.03$).

Last, the analyses of the factor scores revealed two significant effects, both for Factor 2 (acknowledgement and solution of problems). First, the females' average factor score was more positive than the males' ($F=4.91$, $df=1,91$, $p=.03$). Second, the better adjusted also had more positive factor scores when compared to the less well adjusted ($F=8.56$, $df=1,91$, $p=.004$).

In summarizing the ANOVA results, the adjustment variable displayed the greatest number of effects, significantly affecting six of the scoring dimensions. Sex was next, affecting four of the dimensions. Finally, the independent variable for place was the least effective, revealing one significance, that being for the identifications dimension.

Individual Picture Analysis

An attempt to see each drawing's individual effectiveness in distinguishing between the independent variables (place, sex, and adjustment) with respect to each scoring dimension was made through a stepwise logistic regression analysis*. To do this, each of the scoring dimensions (dependent variables) were scored in binary form (1=present, 0=absent) and assembled for each subject for each of the twelve drawings.

We chose a stepwise logistic regression program because we had no predetermined hypotheses about the relative importance of the three independent variables in predicting differences for each picture. With this type of regression, all the independent variables are added to and/or removed according to a given logistic model in a stepping process. This stepping process follows a hierarchical rule which is governed by selected p-value limits for the interactions between the variables. In the present case, an independent variable's p-value had to be less than .10 to enter the model and larger than .15 to be removed.

* See BMDP program BMDPLR (Dixon 1981).

Ideally, for this type of regression analysis one should have larger cell totals than ours to get reliable testing for the 'goodness of fit' of one's predictor variables to the logistic model. Nevertheless, given the limited amount of data, we did find the regression coefficients and standard error terms from each step useful for estimating which independent variables, if any, were affecting which scoring dimensions for which drawings. These results appear in Table 6.

Table 6. *The individual picture analyses using stepwise logistic regression. The values are the regression coefficients divided by their standard errors, and can be read similar to a t-value (N=99).*

SCORING DIMENSION

DRAWING		STEP 1 PROBLEMS			POSITIVE EMOTIONS			NEGATIVE EMOTIONS			SOLUTIONS			IDENTIFICATIONS		
		Place	sex	adjust.	Place	sex	adjust.	Place	sex	adjust.	Place	sex	adjust.	Place	sex	adjust.
City Life	1	2.02			1.59						1.59			1.85		
		U			F						R			U		
Authorities	2															
Work Site	3															1.57
																L
Park Bench	4	2.48		1.71							1.87					1.77
		U		B							F					B
Hospital	5	1.67			1.80			2.08	1.89							
		U			R			U	M							
Country Life	6	2.11			3.05			1.98						2.33	2.00	
		F			M			F						U	F	
Strangers	7														1.78	1.73
															F	L
Kitchen Couple	8	1.95			1.98											
		U			F											
Single Person	9	1.81	2.24					1.67								1.97
		F	B					F								L
Pens. Party	10	1.66	3.12	2.90				2.02			2.30			2.62	3.04	2.32
		U	F	B				B			B			U	F	B
Crowded Bus	11				2.09									2.00		
					B									F		
Moving	12										1.89					
											B					

U= Urban

F= Female

B= Better adjusted

t= 1.66 (p=.10)

t= 1.99 (p=.05)

R= Rural

M= Male

L= Less well adjusted

t= 2.64 (p=.01)

t= 3.40 (p=.001)

The word under each value (urban, female, etc.) indicates which sub-group displayed the greater incidences of the particular scoring variable.

It should be noted that the pleasantness ratings were scorable as an interval variable and therefore analyzed by a different method. Those results appear separately below in Table 7. In viewing the results

Table 7. *Probability values from the 3-way analysis of variance of the pleasantness ratings for each drawing (df=1,91, N=99).*

DRAWING	MAIN EFFECTS			INTERACTIONS			
	Place	Sex	Adjust.	P x S	P x A	S x A	P x S x A
1. City Life							
2. Authorities							
3. Work Site				.05			.03
4. Park Bench							
5. Hospital		.000 F>M					
6. Country Life							
7. Strangers			.08 B>L				
8. Kitchen Couple		.10 F>M					
9. Single person				.01	.05		
10. Pens. Party			.03 L>B				
11. Crowded Bus	.10 R>U	.07 F>M	.06 B>L				.04
12. Moving		.10 F>M					

U= Urban
R= Rural

F= Female
M= Male

B= Better adjusted
L= Less well adjusted

for the pleasantness ratings for each picture, the reader is reminded that these results are based on a 5 point semantic scale (1=least pleasant, 5=most pleasant).

As Tables 6 and 7 show, only four of the drawings revealed significant differences ($p < .01$) for place, sex, or adjustment.

First, the females rated the Hospital situation as more pleasant than the males. Next, for Country Life, the males projected more positive hero-emotions in comparison to the females. The pleasantness ratings for Single Person showed a place by sex interaction where urban males rated this situation as more pleasant than urban females ($M=2.50$ vs. 2.00), and rural males rated it as less pleasant than the rural females ($M=2.13$ vs. 2.47). Pensioner's Party revealed four significant results. Both the female and better adjusted retirees acknowledged more Step 1 problems in this situation. In addition, the urban and female subjects displayed a greater number of identifications here.

There were four nearly significant results worthy of mention. First, for City Life, the better adjusted responded with more solutions in comparison to the less well adjusted. Next, for Park Bench, the urban subjects acknowledged more Step 1 problems than their rural counterparts. For Country Life, the urbanites also displayed a greater number of identifications. Finally, the better adjusted subjects displayed a greater number of identifications for the Pensioner's Party.

DISCUSSION

The goals with the first study were two-fold. First, we wanted to evaluate a newly developed projective technique, especially the relative effectiveness of its scoring dimensions and stimulus material. Second, in the process of achieving the first goal, we hoped to gain more understanding of our selected sample of retired persons. The results from this study form a fairly complicated picture. There were eleven dependent variables (the scoring dimensions) and three independent variables (the subject's place, sex, and adjustment), all for twelve different drawings.

For purposes of discussion, we have grouped the scoring dimensions into four categories; this part of the discussion is based both on the 3-way ANOVAS and the logistic regression analysis (Tables 5, 6 & 7).

Category 1: Problem Acknowledgement and Solution

First, according to place, there was one result worthy of discussion. The urban group tended to acknowledge a greater number of problems in the first step, the spontaneous stage of the session. The most obvious explanation for this might simply be that city people are more problem conscious. Another explanation might be that the drawings have a bias towards urban situations and therefore contain problems which in some way are more familiar to urban persons. The individual picture analysis helps pinpoint which pictures account for this result: City Life, Park Bench, Hospital, Kitchen Couple, and Pensioners' Party. With the exception of Kitchen Couple, the situations have a more urban character.

Results for the sex variable and these scoring dimensions showed the females to be willing to acknowledge Step 1 problems. They also had a higher percentage of solutions, and therefore a more positive average score in Factor 2, which is based on Step 1 problems and solutions. Greater acknowledgement of problems by the females is evidenced by their responses to Country Life, Single Person, and Pensioners' Party. For female retirees, those three pictures might be related to widowhood, a more common problem for women, therefore their greater frequency of projected problems, e.g., loneliness, making contact with men, etc.

An explanation for the females' greater percentage of solutions is not obvious from these data. If one assumes that this result is indicative of greater emotional control, is there any reason to think females might display better control in these twelve situations? Here again, the best answer might lie in differential familiarity with the situations. If one looks at the situations and speculates as to whether or not one is more likely to find men or women in the hero-figure's place, it could be argued that more of the situations are familiar to women; the Park Bench, Hospital, and Country Life situations excepted. If this were true, one could argue that greater familiarity leads to greater responses of control or problem solving. Unfortunately, we did not ask the subjects which situations they had firsthand experience with. It is also a plausible explanation that the female pensioners were more 'open' to the technique and its dependency on verbal fluency, willingness to discuss problems, emotions, etc. Men and women see the same problem, but not be equally willing to express themselves about it.

The adjustment variable had results similar to those for sex with respect to problems and solutions. In support of the working hypotheses, the more positively adjusted group acknowledged a significantly greater number of Step 1 problems, had a greater percentage of solutions, and had more positive scores in Factor 2. It should be noted that of the 60 better adjusted subjects, only 22 were female. The individual picture analysis shows that the greater problem acknowledgement was most marked for Park Bench, Single Person, and Pensioners' Party. The better adjusted group's greater percentage of solutions is most pronounced by their responses to City Life, Pensioners' Party, and Moving.

Category 2: Hero-emotions

The scoring dimensions related to projected emotions were not very fruitful in terms of the analysis of variance. There was one significant effect for adjustment; the better adjusted group responded with more positive hero-emotions. This was in support of the hypothesis which stated that better adjusted persons would have better emotional control in conflict situations in general and therefore be more likely to project positive emotions upon the hero-figures in the drawings. In other words, it appears better adjusted persons see positive aspects even in generally negative situations. The opposite hypothesis was implied for negative hero-emotions, but although the data was in the desired direction, i.e., the better adjusted group did have fewer negative emotions, it was not significant ($F=2.07$, $df=1,91$, $p=.15$). With hindsight, the results from the negative emotions are not surprising; the majority of the drawings do depict negative situations and most of the pensioners perceived them accordingly. It might be that projecting a positive hero-emotion in the face of so many negative stimuli is a better clinical indicator of positive adjustment.

Responses to individual pictures with respect to projected hero-emotions did provide some interesting results. For example, the urban and rural groups had opposite hero-emotions for the Hospital situation; the rural groups viewing the hero-figure's emotional state much more positively. Such a result can allow useful speculation regarding different perceptions of the hospital. Maybe the rural subjects' experiences in their smaller scale medical facilities have in fact been more positive than those of the urban pensioners? Or could it be that the urban subjects saw the situation as a long-term hospital ward, whereas the rural subjects perceived the hero-figure visiting the hospital for a less chronic health problem?

Another worthy result was for Country Life, where men saw the hero-figure positively and women saw her negatively. This result fits well with traditional masculine and feminine stereotypes, i.e., an older woman should not live alone out in the wilderness. A final illustrative example is the Kitchen Couple drawing which, as expected, elicited more positive hero-emotions for the female subjects.

Category 3: Hedonic Evaluation

This category of scoring dimensions takes up the three scores derived from the pleasantness ratings as well as Factor 1, which is based on the subject's number of negative hero-emotions and deviating pleasantness ratings. The subject's overall hedonic evaluation is considered critical to our model of emotional control. Furthermore, the pleasantness ratings step of the testing session is believed to be the point where the subject is most likely to place himself in the role of the hero-figure.

The average pleasantness ratings revealed two tendencies; females and the better adjusted tended to rate the situations as slightly more pleasant. The individual picture analysis showed that the

females' ratings were particularly more pleasant for the Hospital, Kitchen Couple, Crowded Bus, and Moving. The differences between the better and less well adjusted groups were most pronounced for Strangers, Pensioners' Party, and Crowded Bus (Table 7).

Concerning the number of pictures with deviating ratings, it appears the deflated ratings were more effective at showing differences between our subjects. The rural group had a tendency to give more deflated ratings compared to the urbanites. This might be explained by the beforementioned urban bias in the selection of drawings. Likewise, in accordance with our hypotheses, the less well adjusted group responded with more deflated ratings than their better adjusted peers. Furthermore, scores on Factor 1 revealed a tendency for the less well adjusted to evaluate the situations more negatively. Lastly, the elevated pleasantness ratings showed no differences between the independent variables. To summarize, of the four scoring dimensions in this category, it appears that a pensioner's willingness to evaluate a conflict situation as extremely unpleasant (in comparison to a similar group's mean) may be the best evidence of more negative personal adjustment. The opposite is not true from these data, i.e., evaluating a situation as extremely pleasant may not be a good indicator of better personal adjustment.

Category 4: Identification

This scoring dimension must be interpreted more cautiously because we are not treating the content of these responses beyond the subject's use of a first person pronoun. In many cases, an identification was indicative of greater engagement in a picture, e.g., "When those salesmen come to my door, I just tell them no thank you and close the door" (Strangers). There were also responses which were tangentially related to a situation, e.g., telling a story, or relating an experience of a friend or relative who was in the given situation. For our purpose, this second type of identification was scored the same as a firsthand identification. A third type of identification was a type of non-identification, e.g., "I don't have much to say about this drawing, I've never been married, so I don't know what that feels like" (Kitchen Couple). This type of response was not scored as an identification, but obviously might be seen as a very useful response, for example, to a clinical psychologist doing an analysis of the subject.

Even with the above reservations, this scoring dimension revealed two promising findings. First, the urban group had a greater number of identifications than the rural group. A look at the individual picture analyses showed that this finding is mostly a result of City Life, Country Life, and Pensioners' Party. City Life and Pensioners' Party are clearly more typical of the urban environment. The fact that the urban subjects displayed more identification with Country Life may seem perplexing, given that many of the rural subjects actually live in housing similar to that depicted in the drawing. The best explanation for this finding might stem from the tremendous interest in holiday cottages in Sweden. A great portion of the urban subjects own or rent such a cottage. It may also be that identifications are more likely to be projected in

situations which are more arousing. For many of the rural subjects, the cottage drawing was an ordinary, everyday situation.

The second finding of interest with this scoring dimension was the fact that women offered more identifications than men, most markedly in Country Life, Strangers, Pensioners' Party, and Crowded Bus. Here again, this finding might be partially related to higher verbal fluency in the women and/or their greater comfort with the tasks of this technique. Looking at these four situations however, one could argue that those situations are more arousing or stressful for the females. Three of the situations (Country Life, Strangers, and Crowded Bus) elicited many responses related to physical competence and/or vulnerability, e.g., "Oh, I wouldn't care to live out there all alone; She should have a security chain on that door, he could just slip his foot in the door; She just has to push her way up into the bus and hold on the best she can". The Pensioners' Party was seen mostly as a question of how to make contact with others. Here also, this situation might be viewed as more problematic for females, whether because of a greater incidence of widowhood, or the existence of customs related to making contact with the opposite sex. It probably still is, for elderly persons anyway, less acceptable for a woman to be single or alone than a man.

Finally, it should be noted that identifications as a whole were not very frequent in this study, an average of less than two (1.80) identifications for all the drawings per person. For this reason, any significant effects, especially interactions, must be viewed with caution.

The Individual Picture Analysis

In the earlier presentation of the findings for the scoring dimensions many of the noteworthy results from the individual picture analyses were brought into the discussion in an attempt to pinpoint more general results. For this reason, many of the results from these analyses will not be discussed here. However, it is interesting to view Table 6 with an emphasis on each picture, going across the columns for the picture's effectiveness at revealing differences between the variables for place, sex, and adjustment. In other words, one can go down the columns in the table and get an idea of the 'richness' of a given scoring dimension, or one can look only at the rows and see the richness of a given picture. Doing analyses in this way was our first attempt to assess the quality of the stimuli for each picture.

Because the pictures are so concrete, it was possible to have rather specific expectations for each picture, or at least see if any results from one picture were hard to understand or contrary to expectations. For example, City Life elicited a greater number of solutions from the rural group in comparison to the urban subjects. For that same situation, the urban group had greater acknowledgment of problems as well as more identifications. However, when it came to solutions for the hero-figure's negative emotional states or his problems in that situation, the rural subjects appeared to be able to offer more constructive solutions. How can this be ex-

plained? Without having done a content analysis of these particular responses, only a speculation will be given. It might be that the rural pensioners simply adopted a fresh, even naive view of the situation, e.g., "What's he doing just sitting there? He should get some exercise, go look in the stores, etc". Whereas the urbanite, being more assimilated to that situation, might be more inclined to resignation or acceptance, or even less creative about solving the problems in the situation.

Another illustrative example comes from the Pensioners' Party. In many respects, this drawing revealed the most amount of interesting results, i.e., in terms of place, sex, and adjustment. However, a careful look shows that the better adjusted pensioners ascribed significantly more negative emotions to the hero-figure and gave the situation a less pleasant rating in comparison to the less well adjusted group. Here again, a content analysis of the responses to this situation might best explain the specific nature of these findings, but such results should be of interest to professionals who may have certain ideas about senior citizen activities, how retirees view such activities, and more importantly, the value of such activities in terms of helping solve important personal problems, e.g., how to make contact with the opposite sex.

A final comment on Table 6 and the individual picture analyses concerns those drawings which appeared to be least effective at discriminating between the independent variables: Authorities, Strangers, Work Site, and Moving. Is there something those situations have in common? First, the most common cited problems for the situations - facing an authority figure, avoiding such visits from salesmen, longing back to the old job, and being forced to move - are quite specific compared to the problems given for the other drawings, e.g., loneliness, today's youth, illness, and marital relations. At the same time, these more specific problems, stemming from more specific situations, probably allowed for less variety in response from the subjects. It is almost as if these four drawings depicted situations 'too far gone', with regard to hero-emotions, and most of all, solutions. Maybe, the best solution for the problems in these situations is to not get oneself into the situation in the first place. This should not be taken to mean that these situations are not important to retirees; more appropriately, it means these situations were not as effective at distinguishing between these samples of urban or rural, male or female, and better or less well adjusted retired persons.

CONCLUDING REMARKS

Throughout the development of the technique presented here, we asked ourselves the question: Can the technique provide useful information that cannot be obtained from already available methods? In developing a technique using some of the principles from projective testing but in terms of a model of emotional control from environmental psychology, we believe one can obtain a unique type of information. We would argue that the technique combines some of the most attractive aspects of projective testing, e.g., stimulus apperception and the operation of ego defense mechanisms, with

a more reality-based perspective, e.g., extracting responses which involve social and environmental perception, and at the same time require the subject to offer behavioral solutions to real problems. The analysis of these kinds of data, which might be termed environmental control strategies, could better illuminate how older aged persons function in everyday problem-solving situations.

We have not presented here the kind of content-based analysis that is more typical of clinical psychologists and their use of projective techniques. Beyond the judgements made by the scorer to classify problems, hero-emotions, etc., the results here make no claim towards finer clinical assessments. The technique certainly provides data which could be useful to those with more clinical goals. As an example, two students with this data as their thesis work did a content-analysis of responses from 60 of the 99 pensioners presented here (30 from the city, 30 from the country). They found, for example, there was a significantly greater number of responses of loneliness (problems and hero-emotions) from the urban group (Skarping & Karlsson 1985). Other interesting possibilities for content-based analyses might be to take each situation and study which problems, hero-emotions, and solutions are connected, creating a type of taxonomy of environmental control strategies for conflict situations.

In this first study we were primarily concerned with studying the way pensioners as a group responded to the technique. We feel the results presented herein justify the continued use of the technique. In a study currently underway, a trained clinical psychologist is administering the drawings (also as part of a test battery) to two groups of retiring women (nurses and clerical workers). Besides the types of group analyses presented here, we will also be treating the specific content of this data and relating it to the individual situation of each of the subjects.

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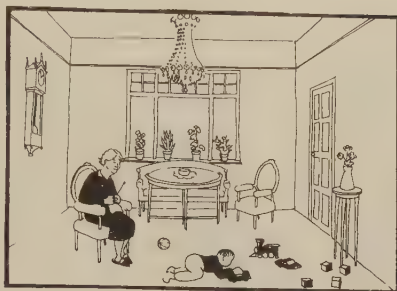
Appendix 1. *A list of the measurements included in the testing package.*

1. Visual acuity and colorblindness
2. Verbal reasoning (opposites), Psykologi Förlaget AB, Hägersten
3. Spatial reasoning (cubes), Psykologi Förlaget AB, Hägersten
4. Environmental Attention Technique (a stress / performance test developed by Watzke and Küller, 1982)
5. Urine analysis (cortisol)
6. Bloodpressure
7. Divergent thinking: alternative uses for a common object, a daily newspaper (Guilford, 1959)
8. Divergent thinking: listing of leisure activities, a measurement of creative lifestyle (Watzke, 1986)
9. Creativity questionnaire (a set of questions hypothesized to correlate with the divergent thinking measurements)
10. Eysenck Personality Inventory, form A (Psykologi Förlaget AB, Hägersten)
11. The Swedish Environmental Response Inventory, adapted from the Environmental Response Inventory (McKechnie, 1974; Watzke, 1986)
12. Time budget (a self-reporting of one entire day's activities)
13. Basic emotions, semantic ratings of one's feelings (Küller, unpublished)
14. The conflict situations technique. A projective method for elderly persons (presented herein)

Appendix 2. *The drawings eliminated after the pilot testing.*



Authorities (male version)



Babysitting



Cemetery



Fallen Person



Noisy Neighbors



Organized Hobbies

Appendix 2 - *continued*



Receiving a Letter



Senior Citizen Center

Appendix 3. *Items comprising the adjustment criterion. The factor loadings for each item appears to the right. Each subject was given a ranking in adjustment based in their factor score for the 21 items (Küller, forthcoming, Watzke 1986).*

1. Health composite (A medical form checklist - Are you bothered by headaches, anxiety, indigestion, etc.)	.64
2. Have you felt (for the most part) sad or happy in recent times?	.63
3. Have you felt (for the most part) anxious or secure in recent times?	.62
4. Have you felt (for the most part) rested or tired in recent times?	.58
5. Are you satisfied with your existence as it is today?	.53
6. Have you felt (for the most part) unproductive or effective in recent times?	.52
7. Have you felt (for the most part) unsure or self-certain in recent times?	.51
8. Do you often feel lonely?	.51
9. To be older, is it better or worse than you expected?	.50
10. Do you feel any types of insecurity in becoming older?	.49
11. Are you worried that someday you will be sick and not able to care for your self?	.47
12. Do you often feel that no one needs you?	.47
13. How do you describe your general health relative to others in your age?	.41
14. Are you easily irritated?	.40
15. Do you think you feel older or younger than your peers?	.36
16. Was it hard to pass the time right after retirement?	.34
17. Do you regret not having made more of your life?	.33
18. Do you usually have troubles falling asleep at night?	.33
19. Do you think the people in your living area feel lonely and isolated?	.33
20. Activities composite; A checklist of activities, e.g., going to a restaurant, a movie, etc., participated in during the last 6 months.	.31
21. Do you want to live in your present area the rest of your life?	.30

Appendix 4. *Raw cell means for place, sex, and adjustment.*

	PLACE		SEX		ADJUSTMENT	
	Urban (N=59)	Rural (N=40)	Females (N=46)	Males (N=53)	Better (N=60)	Less well (N=39)
Step 1 problems	4.52	3.62	4.52	3.85	4.50	3.64
Identifications	2.20	1.22	2.30	1.38	1.55	2.20
Positive emotions	2.15	2.95	2.56	2.40	2.75	2.05
Negative emotions	8.00	8.07	7.85	8.19	7.87	8.28
% Solutions	79.44	78.00	80.50	77.43	82.83	72.74
% Non-solutions	20.25	21.82	19.26	22.30	16.83	27.13
Average pleasant- ness ratings	2.82	2.89	2.90	2.81	2.90	2.78
Elevated pleasant- ness ratings	1.78	2.20	2.09	1.83	2.08	1.74
Deflated pleasant- ness ratings	2.20	2.65	2.33	2.43	2.17	2.72
Factor 1 (negative hedonic evaluation)	.00	-.02	-.10	.10	-.12	.20
Factor 2 (problem acknowledge- ment and solution)	.09	-.11	-.11	-.08	-.23	-.33

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